

## **Rail Yard Automation Patents Derailed at Delaware District Court Lessons from All Terminal Services (d/b/a ConGlobal) v. RoboFlow**

### **I. Overview**

In September, the Delaware District Court invalidated three patents related to control systems for managing railcars and shipping containers as patent ineligible under 35 U.S.C. § 101 for being directed to an abstract idea.

All Terminal Services (d/b/a ConGlobal) had filed a complaint in Delaware District Court against RoboFlow alleging infringement of three patents (U.S. Patent Nos. 12,020,148; 12,217,183; and 12,254,439). The asserted patent claims cover control systems for managing railcars (and more broadly, shipping assets) using image recognition, optical character recognition (OCR), and machine learning algorithms to identify, track, and position the railcars or shipping assets based on sensor data.

RoboFlow moved to dismiss the complaint, arguing that the asserted patents were ineligible for patenting under 35 U.S.C. § 101, and that the complaint failed to adequately allege infringement. The DE District Court granted the motion to dismiss as to patent eligibility (§ 101) but denied it as to the sufficiency of the infringement allegations.

### **II. Legal Framework: the Alice/Mayo Two-Step Test (§ 101)**

The Court applied the two-step framework established in *Alice Corp. Pty. v. CLS Bank Int'l*, 573 U.S. 208 (2014) and *Mayo Collaborative Servs. v. Prometheus Lab'ys, Inc.*, 566 U.S. 66 (2012) to determine if the claims were directed to an unpatentable abstract idea.

#### **A) Step One: Determining if the Claims are Directed to an Abstract Idea**

The Court consolidated the analysis by treating Claim 1 of the '148 patent and Claim 1 of the '439 patent (along with certain dependent claims) as representative of all the patent claims at issue. It characterized the claims as directed to a control system that generates and gathers data (from image and proximity sensors), processes data (generates a database), and then uses that data to execute an action (to identify and position railcars or shipping assets). The Court held that this claimed subject matter constitutes an abstract idea. It further found that the dependent claims did not add any meaningful limitations sufficient to render the patent claims non-abstract. The Court's conclusion was based on the following established principles:

- a) **Mental Process:** The Court characterized the sequence of claimed steps (i.e., collecting data, analyzing data, and then implementing an action based on that analysis) as essentially a mental process, and thus an abstract idea.

- b) Fundamental Human Activity: Similarly, the Court found the claimed functions of surveying a railyard, recording observations on paper to create a database, and directing the positioning of railcars could all be performed by a human. This, in essence, reflects the concept of positioning objects based on their identity, which is also an abstract idea.
- c) Use of Generic Components: The Court held that the claims recited generic computer components (sensors, a server, a geolocation device) that were used merely to facilitate automation of the abstract idea, rather than to improve the technology itself. The Court noted that “using generic components in a specific context, such as to position railcars, does not save the claim from abstractness.”<sup>1</sup>
- d) Functional Language: The Court also observed that the claims even recited the hardware components in functional, result-focused language, such as an “image sensor” and “proximity sensor,” for example. Claims that rely on such functional language are almost always invalid under § 101 as they lack specificity about how the results are obtained.<sup>2</sup>
- e) Application of known Machine Learning (ML) algorithms: The Court followed the Federal Circuit’s recent precedential decision in *Recentive Analytics, Inc. v. Fox Corp.*, holding that merely applying known machine learning algorithms (such as optical character recognition, convolutional neural network, or recurrent neural network) to a new field (railyards/inventory management) is not a technological improvement to the algorithm itself and therefore does not render the abstract idea non-abstract.

Thus, at Step One, the claims were found to be directed to an abstract idea.

Incidentally, the Court also rejected ConGlobal’s argument that the ‘439 patent claims should be patent eligible because they contain certain additional hardware elements that had been added during examination at the USPTO to overcome a § 101 rejection. The Court, citing binding Federal Circuit precedent<sup>3</sup>, explicitly rejected the notion that a patent examiner’s consideration of §101 issues would somehow shield a patent’s claims from a subsequent § 101 challenge in district court.

## **B) Step Two: Determining if the Asserted Claims Contain an Inventive Concept**

After finding the claims directed to an abstract idea, the Court proceeded to Step Two to determine if the claims included an inventive concept, that is, an element or combination of elements that amounts to significantly more than the abstract idea itself.

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<sup>1</sup> *All Terminal Servs., LLC v. RoboFlow, Inc.*, No. CV 25-476-WCB, 2025 WL 2576394, at \*9 (D. Del. Sept. 5, 2025).

<sup>2</sup> *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1356 (Fed. Cir. 2016).

<sup>3</sup> *Beteiro, LLC v. DraftKings Inc.*, 104 F.4th 1350, 1359 (Fed. Cir. 2024).

The Court, however, determined that ConGlobal failed to articulate any inventive concept within the claims, and citing *Recentive*, wrote that the claims “do no more than claim the application of generic machine learning to new data environments, without disclosing improvements to the machine learning models to be applied<sup>4</sup>” and therefore lacked an inventive concept.

### III. Court’s Ruling on Patent Eligibility

Based on the two-step Alice analysis, the Court concluded that the claims of the ‘148, ‘183, and ‘439 patents were ineligible for patenting under 35 U.S.C. § 101, as they were directed to an abstract idea (monitoring and positioning assets by collecting and analyzing data) implemented using generic computing and machine learning components without any claimed technological improvement.

### IV. Infringement Allegations

While granting Roboflow’s Motion to Dismiss as to patent eligibility, the Court denied the Motion on the separate issue of whether the complaint adequately alleged infringement. The Court concluded that ConGlobal’s complaint sufficiently identified specific features of Roboflow’s Yard Management System (cameras, sensors, a server, a database, a control means, and use of ML and geolocation) and supported them with information from Roboflow’s website and a press release so as to satisfy the Iqbal/Twombly plausibility standard and put Roboflow on notice of the alleged infringement.

### V. Takeaways

The Court’s analysis offers critical lessons for drafting and litigating computer-implemented inventions, especially those leveraging Artificial Intelligence (AI) and Machine Learning (ML).

- **The mere application of known AI/ML algorithms is abstract:** As was explained by the Federal Circuit in *Recentive*, the application of known AI/ML algorithms to a new field of use is, by itself, insufficient to establish patent eligibility.
  - If claiming an AI or ML algorithm as a novel concept, the claims must recite a specific improvement in the computer or AI/ML technology itself—not merely its application to a different task (such as to inventory or traffic management).
- **The claims must describe the *how*, not just the *what*:** This opinion highlights the danger of drafting claims with high-level functional or result-oriented language.

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<sup>4</sup> *Recentive Analytics*, 134 F.4th at 1216.

ConGlobal's asserted claims were deemed *functional* because they covered the result (positioning assets based on data) without describing a specific, non-generic means or method for achieving the desired result.

- To survive a § 101 challenge, claims should describe specific inventive, technical details of how a particular result is achieved. Additionally, novel limitations should be recited explicitly in the claims. For example, here, rather than assuming that certain features are implemented to achieve the desired novel result, ConGlobal could have disclosed in the specification, and then claimed, specific details about how inventory is updated in real-time, how the invention reduces latency and bandwidth consumption, how geolocation data is used to execute work orders and build a container terminal map in real-time, etc.
  - Applicants must ensure the inventive concept is described in the specification and clearly and specifically reflected in the claim language. In this case, ConGlobal had argued that detailed disclosures in the specification, such as a description of a “terminal tractor” and the real-time features it enabled, established an inventive concept. But the Court ignored these disclosures because they were not explicitly recited in the claims.
- **A USPTO allowance is not a guarantee of validity:** The Court explicitly rejected ConGlobal's argument that the USPTO Examiner's prior allowance of the claims shielded them from a § 101 challenge in district court.
    - Applicants should draft patent claims keeping in mind eligibility requirements of not only the USPTO, but also of Federal Courts.

Subject matter eligibility under § 101 continues to evolve through both USPTO practice and an expanding body of judicial precedent, creating an increasingly complex framework for a patent applicant to navigate. Given the dynamic nature of this area of law, it is essential for applicants to understand the practical implications of the latest developments and court decisions on claim drafting and prosecution strategy. Applicants can maximize their likelihood of securing durable and enforceable patent protection for their innovations by engaging knowledgeable patent counsel who closely monitor and interpret these latest legal developments.